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実用新案登録願 (2)

(4,000円)

昭和 54 年 5 月 27 日

257E

特許庁長官 森 谷 善 二 殿

1. 考案の名称 ^{フリガナ}
生理用タンポン

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5. 添付書類の目録

✓ (1) 明 細 書 1 通
(3) 願 書 副 本 1 通

✓ (2) 図 面 1 通
✓ (4) 委 任 状 1 通

但し同時提出に係る実用新案登録願(1)に添付した委任状を援用する

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明 細 書

1. 考案の名称

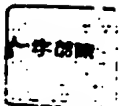
生理用タンポン

2. 実用新案登録請求の範囲

吸収片が複数枚重ね合せられ、引き出し用紐が該各吸収片の一端から外方向に延出するように中央部において該各吸収片と共に縫着され、該各吸収片が前記縫着部を中心として放射状に開いた状態で、タンポン外周面の軸線方向に沿って等間隔に圧搾塊部が形成されるように、タンポンの中心方向に圧搾されることによって、円柱状に形成されていることを特徴とする生理用タンポン。

3. 考案の詳細な説明

本考案は、経血等の体液を吸収するための生理用タンポンの製造方法に関する。



従来のいわゆるミシン掛け方式による生理用タンポンは、綿繊維等からなるシートを長方形に截断した吸収片を複数枚重ね合せてその中央部に引き出し用紐を縫着し、この積層吸収片1を、例えば第1図、第2図に示すように成形型2, 2で単に二方向に圧搾して円柱状のタンポン3を成形するものであるため、体液を吸収して膨潤する際、第3図に示すような状態のタンポンが第4図に示すように同心円的に膨張せず、膨張度も低いため、体腔の内壁に充分に適合せず体液漏れが生じ、体液吸収能力が充分に発揮されないという欠点があった。

本考案の目的は、体液を吸収した際、速やかに同心円的に均一に膨張し、膨張度も高い生理用タンポンの新規な製造方法を提供することにある、

その目的を達成するための構成を図示の実施態様に基いて説明すると、以下の通りである。

第 5 図に示すように綿繊維等の吸収片 11 を複数枚重ね合せ、引き出し用紐 12 を該各吸収片 11 の一端から外方向へ延出するように中央部において該各吸収片と共に縫着してある。第 6 図に示すように引き出し用紐 12 を中心として各吸収片 11 を放射状に開いた後、これを、第 7 図に示すように放射状の形状を有する成形型 13 内に位置させた状態で、各押圧体 14 を成形型 13 の中心に向い摺動させて圧搾することにより、第 8 図、第 9 図に示すように各吸収片 11 の幅方向両端に相当する圧搾塊部 15 をタンポン 16 外周面の軸線方向に沿って等間隔に形成してある。

本考案は、斯くしてタンポン 16 を円柱状に形成

してあるが、このタンポン16は、体液に接していない場合には第10図に示す状態にあるが、或る程度吸収すると第11図に示す状態のように同心円的に均一且つ十分に膨張し、そのため体腔の内壁に適合して体液漏れが生じることなく、タンポン16を構成する素材繊維量に応じた体液吸収能力が十分に発揮されることになる等の効果がある。

4. 図面の簡単な説明

第1図、第2図は従来タンポンの成形手段を示す成形型の概略図、第3図は従来タンポンの体液吸収前を示す前端面図、第4図はそのタンポンの体液吸収膨潤状態を示す前端面図、第5図は本考案に係るタンポン素材たる吸収体の斜視図、第6図は成形に先立ちその吸収体を放射状に開いた状態の斜視図、第7図は第6図示の吸収体を成形型

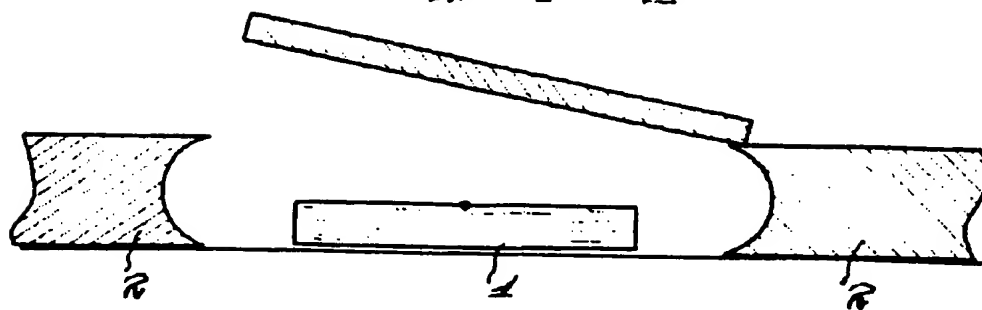
に入れて成形しようとする状態の概略図、第8図は本考案によって得られたタンボンの前端面図、第9図はそのタンボンの側面図、第10図は体液吸収前の状態を示す第8図と同じ図、第11図はそのタンボンの体液吸収膨潤状態を示す前端面図である。

- | | |
|--------------|----------------|
| 11 ... 吸収片、 | 12 ... 引き出し用紐、 |
| 13 ... 成形型、 | 14 ... 押圧体、 |
| 15 ... 圧搾塊部、 | 16 ... タンボン。 |

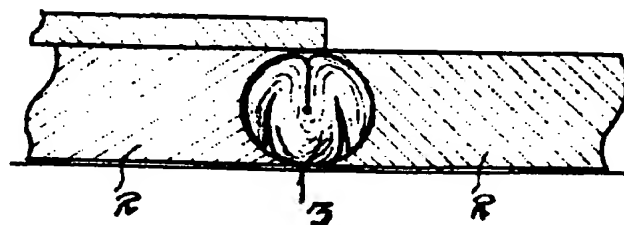
代理人弁理士 白 浜 吉 治



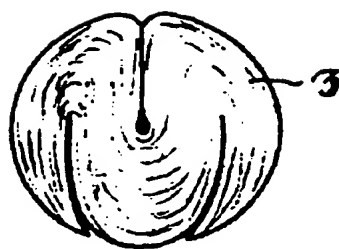
第 1 図



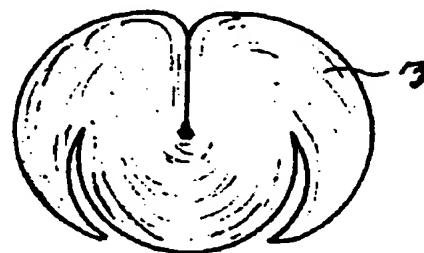
第 2 図



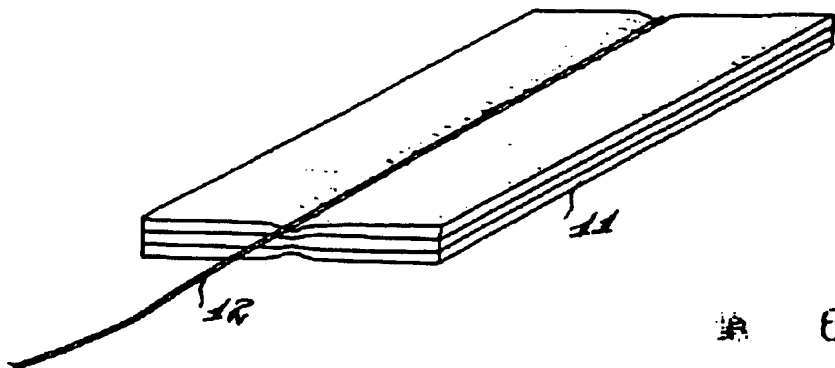
第 3 図



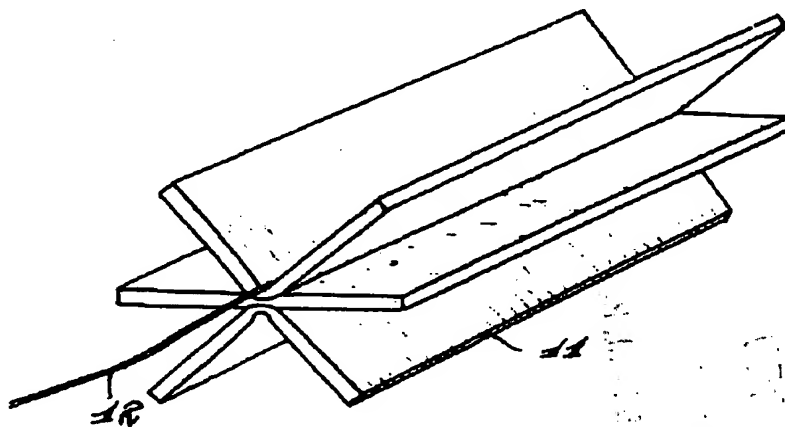
第 4 図



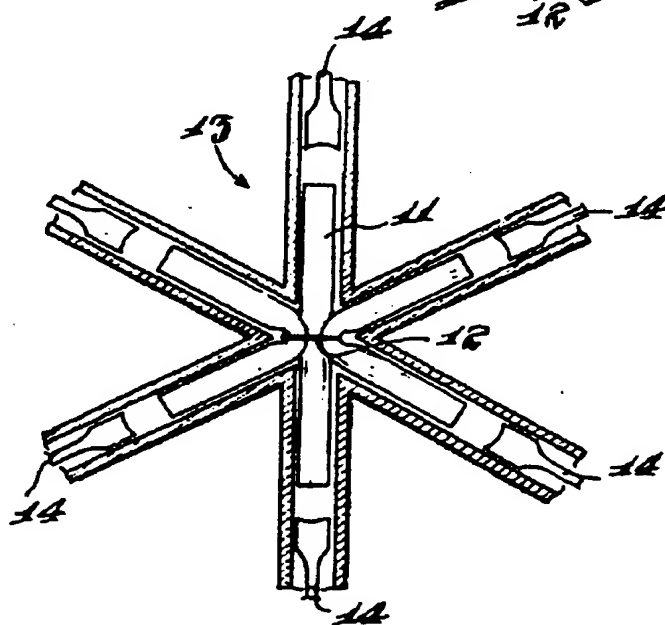
第 5 图



第 6 图



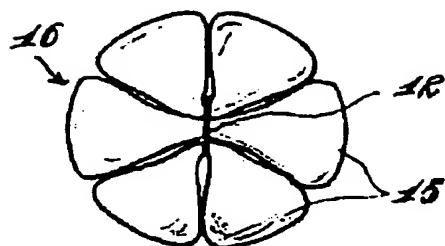
第 7 图



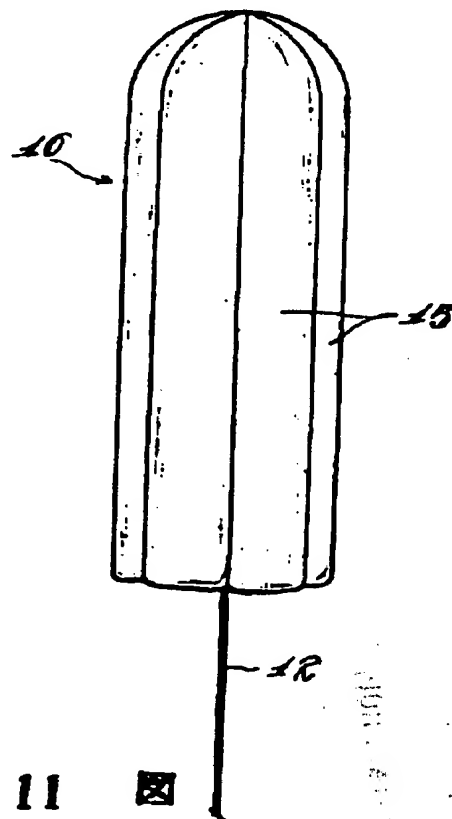
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代理人 井理士 白 溪 吉 治

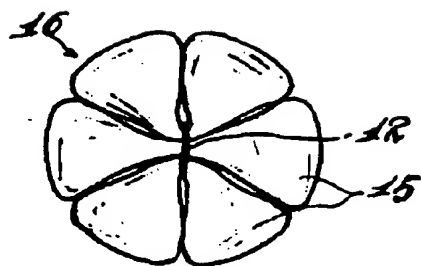
第 8 図



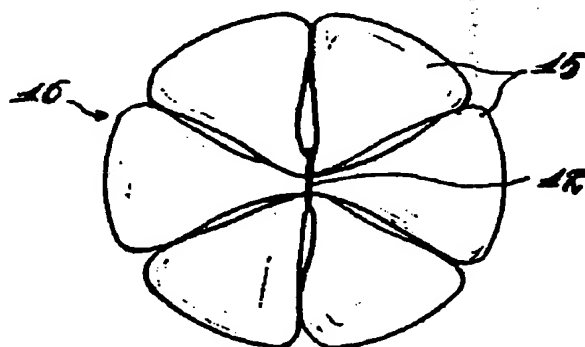
第 9 図



第 10 図



第 11 図



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Unexamined Utility Model 55-168330 [1980]

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APPLICATION FOR UTILITY MODEL REGISTRATION (2)

(4000 Yen)

20 May 1979

To: Director of the Patent Office, Zenji TANI

1. Name of the Device

A Sanitary Tampon

2. Creators of Device

Address: **385-1 Handa Otsu, Kanada-cho, Kawanoe-shi, Ehime-ken**

Name: **Tetsu Sasaki**

3. Applicant for Utility Model Registration

Address: **182 Shimobun, Kinsei-cho, Kawanoe-shi, Ehime-ken**

Name (Designation): **Uni-Charm Company, Ltd.**

Representative: Keichiro Takahashi

[seal of Patent Office
dated 21 May 1979 affixed]

4. Agent: **105 [postal code] (Telephone) 436-0631**

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12-10 Simbashi 3-chome, Minato-ku, Tokyo-to**

Name: **(6636) Yoshiharu Shirahama, Patent Attorney**

5. List of Appended Documents

(1)	Specification	1 copy	(2)	Figures	1 copy
(3)	Duplicate of Specification	1 copy	(4)	Power of Attorney	1 copy

However, the power of attorney appended to the specification
of the utility model application that was submitted at the same time.
[TRANSLATOR'S NOTE: print is unclear here.]

Specification

1. Name of the Device

A Sanitary Tampon*

2. Claim

A sanitary tampon characterized in that several absorbent strips are overlaid on each other, in that a draw string is sewn together with said absorbent strips at the center, in that it extends from one end of said absorbent strips toward the outside direction and in that said absorbent strips are in a state in which they open out in a radiating pattern with the aforementioned sewn portion as the center, with compressed masses being formed at equal intervals along the axial line direction on the outside circumferential surface of the tampon, by which means it is formed in a columnar pattern.

3. Detailed Description of the Device

This device relates to a sanitary tampon for the purpose of absorbing body fluids such as menstrual blood.

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Sanitary tampons based on the conventional so-called machine-sewn method are made by overlaying several absorbent strips obtained by cutting sheets comprised of cotton fibers into a rectangular shape and sewing a draw string into the center, with this laminated absorbent strip 1, as shown in Figure 1 and Figure 2, being compressed from two directions by the molds 2 and 2 to form the columnar shaped tampon 3. For this reason, when it absorbs body fluids and swells, the tampon in the state shown in Figure 3 does not swell in a concentric circle pattern, as shown in Figure 4. In addition, there is a low degree of swelling, for which reason there are the drawbacks that it does not conform sufficiently to the inside wall of the body cavity, with leakage of body fluids occurring, and that its fluid absorbing capacity is not fully displayed.

The objective of this device is to provide a novel method of for the manufacture of sanitary tampons that swell rapidly and uniformly in a concentric circle pattern when body fluids are absorbed and that display a high degree of absorption. In the following text, we shall describe the structure for the purpose of achieving these objectives on the basis of the embodiments illustrated in the figures.

As shown in figure 5, several absorbent strips 11 consisting of cotton fibers are overlaid on each other, the draw string 12 is sewn together with said absorbent strips at their center so that it extends from one end of said absorbent strips 11 toward the outside direction. As shown in Figure 6, the absorbent strips 11 are opened out in a radiating pattern, with the drawstring at the center. In the state in which this structure is positioned in the mold 13, which has a radiating pattern as shown in Figure 7, the press elements 14 are slid toward the

center of the mold 13 to effect compression, by which means, as shown in Figure 8 and 9, the compressed masses 15, which correspond to the two ends of the absorbent strips 11 in the axial direction, are formed at equal intervals along the axial line direction on the outside circumferential surface of the tampon 16.

In this device, thus, the tampon 16 is formed in a columnar pattern. When the tampon 16 is not in contact with body fluid, it is in the state shown in Figure 10. However, when absorption has occurred to a certain extent, it swells uniformly and amply in a concentric circular pattern as shown in Figure 11. For this reason, there is the effect that it conforms to the inside wall of the body cavity so that body fluid leakage does not occur and so that body fluid absorbing capacity can be displayed sufficiently in correspondence to the quantity of fibers that constitute the tampon 16.

4. Brief Explanation of the Figures

Figure 1 and Figure 2 are schematic diagrams that the process of formation of conventional tampons, Figure 3 is a view of the anterior end face of a conventional tampon before body fluid absorption, Figure 4 is a view of the anterior end face of that tampon showing the state of swelling on absorption of body fluids, Figure 5 is an oblique view of the absorbent material that forms the tampon of this device, Figure 6 is an oblique view of the state prior to molding in which the absorbent material is opened up in a radiating pattern, Figure 7 is a schematic view of state in which the absorbent material shown in Figure 6 has been introduced into the mold for molding, Figure 8 is a view of the anterior end face of a tampon that has been obtained by this device, Figure 9 is a view of the side face of that tampon, Figure 10 is the same view as in Figure 8 showing the state before body fluid absorption and Figure 11 is a view of the anterior end face showing the state of that tampon when it is swollen by absorption of body fluids.

11 --- absorbent strip,

12 --- draw string,

13 --- mold,

14 --- press element,

15 --- compressed mass,

16 --- tampon.

Agent: Yoshiharu Shirahama, Patent Attorney

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[Figure page 1/3]

Figure 1

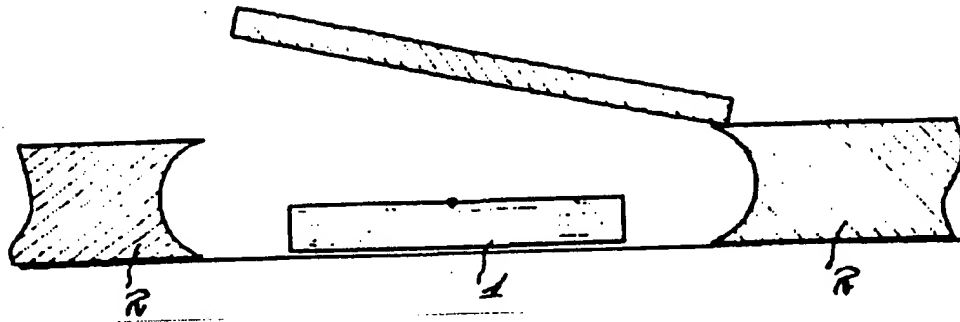


Figure 2

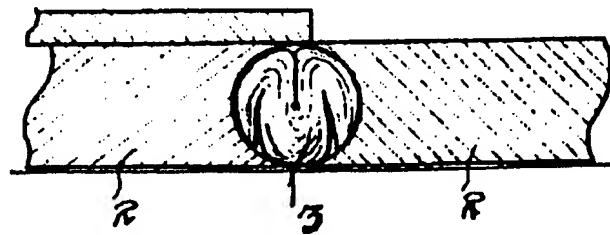


Figure 3

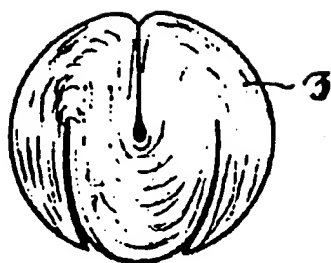
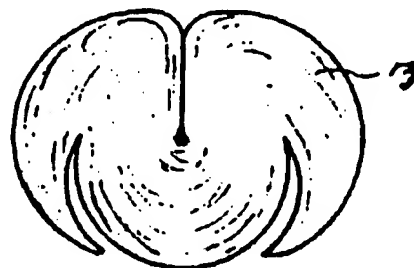


Figure 4



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Figure 5

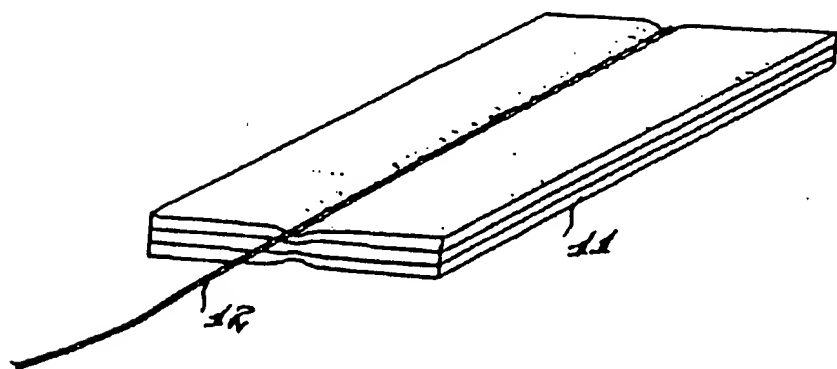


Figure 6

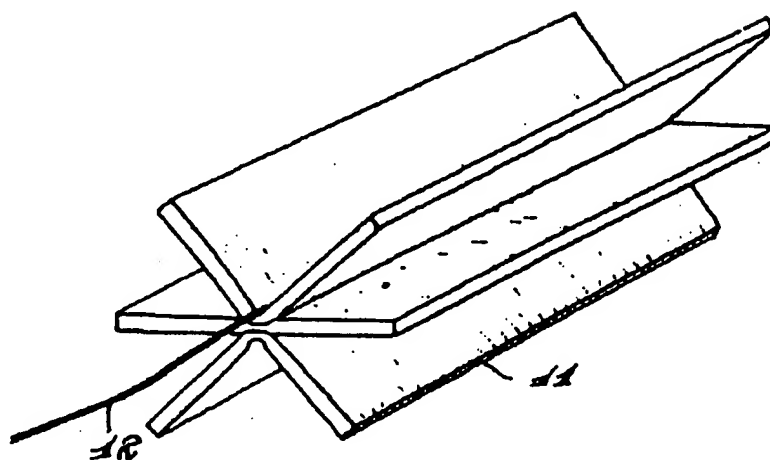
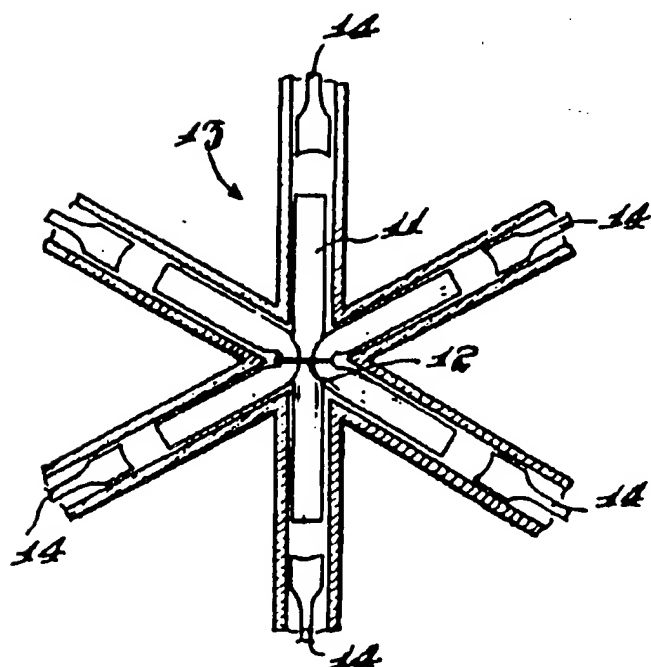


Figure 7



Agent, Yoshiharu Shirahama, Patent Attorney

[Figure page 3/3]

Figure 8

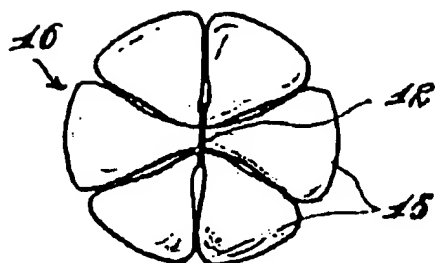


Figure 9

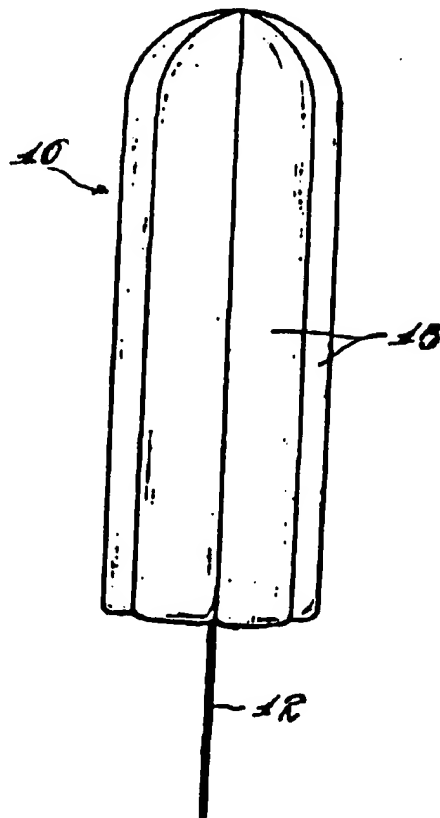


Figure 10

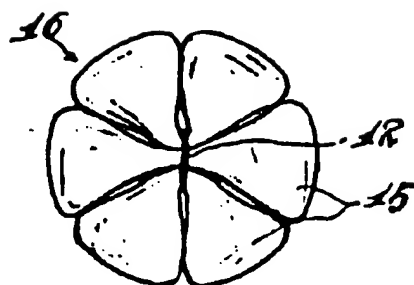
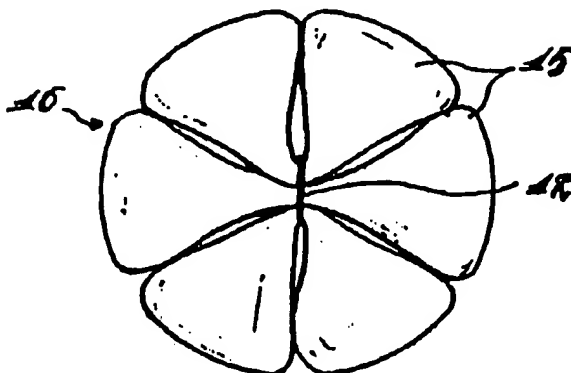


Figure 11



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